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SEVEN NEW PHLAEOTHRIPIDAE FROM THE
UNITED STATES.

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The species described in this paper have been known to the writer for a number of years, all of them having been taken in the period between 1914 and 1927, principally by Bert R. Coad, Dr. Alexander Wetmore, and L. O. Jackson. The types are in the author's collection.

***Leptothrips oribates* sp. nov.**

Female (macropterous).—Length about 1.9 mm. (fully distended, 2.4 mm.). Color dark brown or blackish brown, with abundant purple pigmentation, the tarsi a trifle lighter; antennae with segments I, II, and VI-VIII almost concolorous with body, I paler basally, II yellowish in median apical portion and narrowly nearly black at sides and across base, III lemon yellow and more or less clouded with brown in apical third, IV yellow in about basal two-fifths and dark brown in about apical two-fifths, often with pedicel somewhat shaded, V yellow in about basal third, shading to dark brown in apical half or more and with its pedicel shaded, VI sometimes yellowish just beyond pedicel; fore wings clear, with base of scale and a small area behind first subbasal seta dark brown.

Head scarcely 1.6 times as long as greatest width across cheeks, which is behind their middle, the width across eyes very slightly less; cheeks distinctly notched at posterior angles of eyes, rounded, and narrowing to a very slight basal collar, the least width near base about 0.9 that across eyes; vertex roundly produced as usual, overhanging, and bearing the forwardly-directed median ocellus at its extremity; surface of head rather deeply cross-striate; postocular setae slender, brown, with pointed tips, their length about $37\ \mu$, interval

109 μ , distance from eyes 19 μ . Eyes typical, somewhat protruding, not at all produced ventrally, measuring in μ as follows in one NaOH-treated paratype: dorsal length 80, dorsal width 51, dorsal interval 57, ventral length 83, ventral width 46, ventral interval 67. Antennae normal. Mouth-cone typical, extending about 120 μ beyond posterior dorsal margin of head.

Prothorax about 0.6 the length of head, its dorsal surface distinctly cross-striate over most of its area; major setae dark brown, scarcely pointed, the antero-marginals 37 μ , antero-angulars 27 μ , midlaterals minute, epimerals 50 μ , postero-marginals 42 μ , coxals pointed, 13 μ . Pterothorax normal; meso- and metanota with the usual fine striations. Legs normal. Fore wings typical, about 1.0 mm. long, with 6 or 7 accessory setae, the subbasal setae all colorless, I and II with dilated tips and respectively about 43 and 45 μ long, III pointed and about 60 μ .

Abdomen typical, broadest at segment III; setae on segments I-IV and the terminal ones largely brown, all others nearly colorless apically, those on the first two or three segments blunt, all others pointed, the three major pairs on IX respectively 140, 142, and 93 μ ; tube (segment X, only) scarcely one-half as long as head, hardly twice as long as greatest subbasal width, and nearly twice as wide near base as at apex, its sides slightly concave.

Measurements of female (mostly of holotype), in mm.: Length about 1.87 (fully distended, 2.38); head, length 0.260, width across eyes 0.158, least width at posterior margin of eyes 0.154, greatest width across cheeks 0.166, least width near base 0.147; prothorax, median length of pronotum 0.118, width (inclusive of coxae) 0.265; mesothorax, width across anterior angles 0.318; abdomen, greatest width (at segment III) 0.357; tube (segment X, only), length 0.138, greatest subbasal width 0.071, least apical width 0.040; terminal setae, length 0.156.

Antennal segments*:	1	2	3	4	5	6	7	8
Length (μ):	40	54	64	65	56	51	45	34
Width (μ):	32	29	26	32	30	27	23	16

Total length of antenna 0.409 mm.

Male (macropterous).—Identical with female in color, but

* The measurements which follow are of a topotypic paratype.

with head, antennae, and abdomen more slender; allotype with head 240 μ , width across eyes 151, least width at posterior margin of eyes 140, greatest width across cheeks 153, least width near base 136.

COLORADO: Boulder (Kosslers Lake, 7500 ft.), July 12, 1924, L. O. Jackson, 2 ♀♀ (including holotype), on *Pinus scopulorum*; Boulder, June 14, 1924, L. O. J., 4 ♀♀, in miscellaneous collecting; Boulder (Gregory Canyon), June 21, 1924, L. O. J., 6 ♀♀, on *Pinus scopulorum*.

ARIZONA: Williams, July 10, 1918, Alexander Wetmore, 3 ♀♀ and 1 ♂ (the last being the allotype), on *Pinus brachyptera*.

NEW MEXICO: Chusca Mts., July 1, 1918, Alexander Wetmore, 4 ♀♀ and 1 ♂, on *Pinus brachyptera*.

This species is closely allied to *L. mali* (Fitch), but differs conspicuously in that the eyes are not prolonged posteriorly on the ventral surface of the head.

Leptothrips larreæ sp. nov.

Female (macropterous.)—Length about 1.9 mm. (fully distended, 2.4 mm.). Color dark brown or blackish brown, with abundant purple pigmentation, the tarsi sometimes a trifle lighter; antennae with segments I, II, and V–VIII almost concolorous with body, I paler basally, II yellowish in median apical portion and narrowly nearly black at sides and across base, III golden yellow in basal third and shading to dark brown in apical third, IV golden yellow in basal third and with its remainder dark brown, often with pedicel somewhat shaded, V sometimes indistinctly yellowish just beyond pedicel; fore wings clear, with base of scale and a small area behind first subbasal seta dark brown.

Head about 1.4 times as long as greatest width across cheeks, which is behind their middle, the width across eyes very slightly less; cheeks slightly notched at posterior angles of eyes, rounded, and narrowing to a very slight basal collar, the least width near base about 0.9 that across eyes; vertex roundly produced as usual, overhanging, and bearing the forwardly-directed median ocellus at its extremity; surface of head rather deeply cross-striate; postocular setae slender, brown, with pointed tips, their length about 33 μ , interval 122 μ , distance from eyes 12 μ . Eyes typical, somewhat protruding, distinctly produced ventrally, and measuring in μ as follows in one NaOH-treated paratype: dorsal length 75,

dorsal width 51, dorsal interval 63, ventral length 91, ventral width 53, ventral interval 60. Antennae normal in general structure; segment III short, subequal in length to II; sensecone formula: III 0-1, IV 1-2, V and VI 1-1⁺¹, VII 1 dorsal. Mouth-cone typical, extending about 108 μ beyond posterior dorsal margin of head.

Prothorax scarcely 0.5 the length of head, its dorsal surface rather heavily cross-striate throughout; major setae dark brown, truncate at tip, the antero-marginals 25 μ , antero-angulars 15 μ , midlaterals and coxals minute, epimerals 53 μ , postero-marginals 35 μ . Pterothorax normal; meso- and metanota with the usual fine striations. Legs normal. Fore wings typical, about 0.9 mm. long, with 3-6 accessory setae, the subbasal setae all colorless, I and II with dilated tips and respectively about 30 and 38 μ long, III pointed and about 40 μ .

Abdomen typical, broadest at segment III; setae on segments I-IV and the terminal ones largely brown, the others nearly colorless, all of them pointed or nearly so, the three major pairs on segment IX of holotype respectively 137, 124, and 100 μ ; tube (segment X, only) about one-half the length of head, hardly twice as long as greatest subbasal width, and nearly twice as wide near base as at apex, its sides almost perfectly straight.

Measurements of female (mostly of holotype), in mm.: Length about 1.88 (fully distended, 2.39); head, length 0.246, width across eyes 0.165, least width at posterior margin of eyes 0.161, greatest width across cheeks 0.172, least width near base 0.153; prothorax, median length of pronotum 0.117, width (inclusive of coxae) 0.273; mesothorax, width across anterior angles 0.308; abdomen, greatest width (at segment III) 0.353; tube (segment X, only), length 0.120, greatest subbasal width 0.064, least apical width 0.036; terminal setae, length 0.122.

Antennal segments:	1	2	3	4	5	6	7	8
Length (μ):	38	56	57	60	54	50	41	32
Width (μ):	34	29	23	31	30	27	23	16

Total length of antenna 0.388 mm.

Male (macropterous).—Identical with female in color, but with head, antennae, and abdomen more slender; allotype with head 230 μ , width across eyes 150 μ , least width at posterior margin of eyes 146 μ , greatest width across cheeks 160 μ , least width near base 141 μ .

ARIZONA: Tucson, April 24, 1914, Bert R. Coad, 4 ♀♀ and 2 ♂♂ (including holotype and allotype) [Hood No. 226]; Quijotoa, August 28, 1927, J. D. H., 9 ♀♀ and 1 ♂ [Hood No. 899].

CALIFORNIA: Victorville, August 15, 1927, J. D. H., 8 ♀♀ and 4 ♂♂ [Hood No. 813].

All of the material listed above was taken on Greasewood or Creosote Bush (*Larrea tridentata* DC.=*Covillea glutinosa* Jeps.; det. by Dr. Paul C. Standley and Dr. Philip A. Munz). The principal diagnostic characters of this species are (1) the short, broad head, (2) the ventrally prolonged eyes, (3) the short third antennal segment, in comparison with the second, and (4) the distinctly striate pronotum.

Leptothrips papago sp. nov.

Female (macropterous).—Length about 2.1 mm. (fully distended, 2.7 mm.). Color dark brown or blackish brown, with abundant purplish pigmentation, the tarsi scarcely lighter; antennae with segment I, II, and VI-VIII almost concolorous with body, II pale yellow across apex and narrowly nearly black along inner surface and across base, III pale yellow, IV and V yellow in about basal third and brown beyond, V darker than IV; fore wings clear, with base of scale and a small area behind first subbasal seta dark brown.

Head about, 1.7 times as long as greatest width across cheeks, which is behind their middle, the width across eyes slightly less; cheeks slightly notched at posterior angles of eyes, rounded, and narrowing to a very slight basal collar, the least width near base only slightly less than that across eyes; vertex roundly produced as usual, overhanging, and bearing the forwardly-directed median ocellus at its extremity; surface of head rather deeply and closely cross-striate; postocular setae slender, brown, with pale blunt tips, their length about 46 μ , interval 118 μ , distance from eyes 23 μ . Eyes typical in general structure, distinctly protruding, scarcely produced ventrally, and measuring in μ as follows in the holotype: dorsal length 95, dorsal width approximately 58, dorsal interval about 52, ventral length 102. Antennae normal in general structure, but with segments V-VIII relatively short and stout, VI only 0.64 as long as IV; sense-cone formula: III 0-1, IV 1-2, V and VI 1-1⁺¹, VII 1 dorsal. Mouth-cone typical, extending about 117 μ beyond posterior dorsal margin of head.

Prothorax about 0.44 the length of head, its dorsal surface

rather heavily and closely cross-striate throughout; major setae dark brown, truncate at tip, the antero-marginals 29 μ , antero-angulars 25 μ , midlaterals and coxals minute, epimerals 54 μ , postero-marginals 48 μ . Pterothorax normal; meso- and metanota with the usual fine striations. Legs normal. Fore wings typical, about 1.0 mm. long, without accessory setae, the subbasal setae all colorless, I and II with dilated tips and respectively about 39 and 43 μ long, III pointed and about 55 μ .

Abdomen typical, broadest at segment II; major setae on segments I-V brown with pale tips, the dorso-lateral series somewhat dilated, the others blunt; setae on segments VI-IX successively paler, brown at base and nearly colorless apically, the lateral series pointed or nearly so, the dorso-lateral series slightly dilated or blunt; segment IX with the three major pairs pointed and respectively 130, 124, and 80 μ in holotype; tube (segment X, only) about 0.42 the length of head, twice as long as greatest subbasal width, and 1.7 times as wide near base as at apex, its sides almost perfectly straight.

Measurements of female (holotype), in mm.: Length about 2.12 (fully distended, 2.66); head, length 0.300, width across eyes 0.168, least width at posterior margin of eyes 0.157, greatest width across cheeks 0.178, least width near base 0.165; prothorax, median length of pronotum 0.133, width (inclusive of coxae) 0.298; mesothorax, width across anterior angles approximately 0.344; abdomen, greatest width (at segment II) 0.372; tube (segment X, only), length 0.127, greatest subbasal width 0.064, least apical width 0.038; terminal setae, length 0.131.

Antennal segments: 1 2 3 4 5 6 7 8

Length (μ): 40 60 70 75 53 45 43 29 (holotype)

41 55 71 68 53 46 43 29 (paratype)

Width (μ): 36 29 26 33 31 26 23 16 (holotype)

Total length of antenna (holotype) 0.415 mm.

Male (macropterous).—Identical with female in color, but with head, antennae, and abdomen more slender; allotype with head 256 μ long, width across eyes 145 μ , least width at posterior margin of eyes only 128 μ , greatest width across cheeks only 144 μ , least width near base 131 μ .

Antennal segments: 1 2 3 4 5 6 7 8

Length (μ): 36 54 64 69 58 50 47 30

Width (μ): 30 25 23 28 27 23 19 14

Total length of antenna 0.408 mm.

ARIZONA: Tucson, April 23, 1914, Bert R. Coad, 4 ♀♀ and 1 ♂, from cottonwood [Hood No. 221].

The principal diagnostic characters of this species, which is somewhat larger than most of its congeners, are (1) the long head, (2) scarcely produced eyes, (3) long third and fourth antennal segments and short fifth to eighth, the sixth being only 0.64 the length of the fourth, (4) closely but deeply striate pronotum, and (5) absence of accessory wing setae.

***Leptothrips acaciae* sp. nov.**

Female (macropterous).—Length about 1.7 mm. (fully distended, 2.2 mm.). Color dark brown or blackish brown, with abundant purple pigmentation, the tarsi scarcely lighter; antennae with segments I and II almost concolorous with body, II light brown medially and apically and narrowly nearly black along both inner and outer surfaces and across base, III golden yellow, more or less overlain with gray, especially apically, IV and V brown, V darker than IV, both somewhat paler beyond pedicel, VI–VIII uniform blackish brown; fore wings clear, with base of scale and a small area behind first subbasal seta dark brown.

Head about 1.5 times as long as greatest width across cheeks, which is near their middle, the width across eyes slightly less; cheeks slightly notched at posterior angles of eyes, rounded, and narrowing to a very slight basal collar, the least width near base only slightly less than that across eyes; vertex roundly produced as usual, overhanging, and bearing the forwardly-directed median ocellus at its extremity; surface of head rather deeply and closely cross-striate; postocular setae slender, brown, with pale dilated tips, their length about 25 μ , interval 107 μ , distance from eyes 14 μ . Eyes typical in general structure, somewhat protruding, distinctly produced ventrally, and measuring in μ as follows in a topotypic paratype: dorsal length 80, dorsal width 49, dorsal interval 51, ventral length 95, ventral width 47, ventral interval 55. Antennae normal in general structure, but with the segments all relatively short and stout; VI about 0.8 as long as IV; sense-cone formula: III 0–1, IV 1–2, V and VI 1–1⁺¹, VII 1 dorsal. Mouth-cone typical, extending about 112 μ beyond posterior dorsal margin of head.

Prothorax about 0.46 the length of head, its dorsal surface heavily and closely cross-striate throughout; major setae dark

brown, slightly dilated at tip, the antero-marginals 26 μ , antero-angulars, midlaterals, and coxals minute, epimerals 40–52 μ , postero-marginals 33–38 μ . Pterothorax normal; meso- and metanota with the usual fine striations. Legs normal. Fore wings typical, about 0.83 mm. long, without accessory setae, the subbasal setae all colorless, I and II with dilated tips and respectively about 28 and 33 μ long, III pointed and about 58 μ .

Abdomen typical, broadest at segment III; major setae on segments I–VI brown with pale tips, the dorso-lateral series somewhat dilated, the others blunt; setae on segments VII–IX pale brownish yellow, the lateral pair on VII pointed or nearly so, the others blunt; segment IX with the three major pairs pointed and respectively 120, 107, and 86 μ in holotype; tube (segment X, only) about 0.44 the length of head, 1.7 times as long as greatest subbasal width, and 1.7 times as wide near base as at apex, its sides almost perfectly straight.

Measurements of female (holotype), in mm.: Length about 1.66 (fully distended, 2.15); head, length 0.242, width across eyes 0.150, least width at posterior margin of eyes 0.143, greatest width across cheeks 0.158, least width near base 0.143; prothorax, median length of pronotum 0.112, width (inclusive of coxae) 0.249; mesothorax, width across anterior angles 0.266; abdomen, greatest width (at segment III), 0.300; tube (segment X, only), length 0.106, greatest subbasal width 0.063, least apical width 0.036; terminal setae, length 0.115.

Antennal segments:	1	2	3	4	5	6	7	8
Length (μ):	35	52	54	53	44	43	37	24
Width (μ):	31	27	23	30	28	26	23	15

Total length of antenna 0.342 mm.

Male (macropterous).—Identical with female in color, but with head, antennae, and abdomen more slender; allotype with head 237 μ long, width across eyes 138 μ , least width at posterior margin of eyes 128 μ , greatest width across cheeks 137 μ , least width near base 115 μ .

ARIZONA: Wickenburg, August 25, 1927, J. D. H., 7 ♀♀ (including holotype) and 1 ♂ (allotype), on *Acacia Greggii* [Hood No. 878]; Nogales, August 30, 1927, J. D. H., 10 ♀♀, on *Acacia* or *Prosopis* [Hood No. 909].

This little species agrees with *papago* in lacking accessory wing setae, but differs from it markedly in the shorter head, the pro-

duced eyes, and the shorter and stouter antennae, with their sixth segment about 0.8, instead of 0.64, the length of the fourth.

Leptothrips oregonensis sp. nov.

Female (macropterous).—Length about 1.8 mm. (fully distended, 2.3 mm.). Color dark brown or blackish brown, with abundant purple pigmentation, the tarsi yellowish brown; antennae with segments I and II almost concolorous with body, I paler across base, II light brown medially and apically and narrowly nearly black along inner surface and across base, III yellow and lightly shaded with brown apically, IV and V yellowish brown, V darker than IV, both somewhat paler beyond pedicel and darker apically, VI-VIII brown, VII darker than VI; fore wings clear, with base of scale and a small area behind first subbasal seta dark brown.

Head about 1.5 times as long as greatest width across cheeks, which is behind their middle, the width across eyes distinctly less; cheeks slightly notched at posterior angles of eyes, rounded, and narrowing to a very slight basal collar, the least width near base less than that across eyes; vertex roundly produced as usual, overhanging, and bearing the forwardly-directed median ocellus at its extremity; surface of head rather lightly and closely cross-striate; postocular setae slender, pale, and pointed, their length about 37 μ , interval 113 μ . Eyes typical in general structure, somewhat protruding, slightly shorter ventrally, and measuring as follows, in μ , in the holotype: dorsal length 83, dorsal width 50, dorsal interval 57, ventral length 76, ventral width approximately 45, ventral interval about 67. Antennae normal in general structure; segment VI about 0.8 as long as IV; sense cone formula: III 0-1, IV 2-2, V and VI 1-1⁺¹, VII 1 dorsal. Mouth-cone typical.

Prothorax about 0.47 the length of head, its dorsal surface almost without striae; major setae dark brown, the antero-marginals and antero-angulars pointed and respectively 27 and 20 μ , the midlaterals and coxals minute, epimerals and postero-marginals blunt at apex and respectively 53 and 40 μ . Pterothorax normal; meso- and metanota with the usual fine striations. Legs normal. Fore wings typical, about 0.88 mm. long, with 6-8 accessory setae, the subbasal setae all colorless, I and II with dilated tips and respectively about 33 and 37 μ long, III pointed and about 52 μ .

Abdomen typical, broadest at segment III; major setae

pointed, those on segments I-V and the terminal ones brown, those on VI-IX nearly colorless, IX with the three major pairs respectively 145, 153, and 112 μ in holotype; tube (segment X, only), about one-half the length of head, 1.7 times as long as greatest subbasal width, and about twice as wide near base as at apex, its sides slightly concave.

Measurements of female (holotype), in mm.: Length about 1.82 (fully distended, 2.25); head, length 0.245, width across eyes 0.156, least width at posterior margin of eyes 0.152, greatest width across cheeks 0.166, least width near base 0.148; prothorax, median length of pronotum 0.116, width (inclusive of coxae) 0.262; mesothorax, width across anterior angles 0.302; abdomen, greatest width (at segment III) 0.347; tube (segment X, only), length 0.120, greatest subbasal width 0.069, least apical width 0.036; terminal setae, length 0.160.

Antennal segments:	1	2	3	4	5	6	7	8
Length (μ):	35	54	59	60	54	53	46	31
Width (μ):	33	28	26	32	29	26	22	14

Total length of antenna 0.392 mm.

OREGON: Crater Lake National Park, July 21, 1927, J. D. H., 2 ♀♀ (including holotype) on *Ribes cereum* [Hood No. 681], and 1 ♀ under bark on a stump, probably spruce [Hood No. 677].

Readily known from *mali* and the several species described in this paper by the smooth pronotum.

Karnyothrips arizona sp. nov.

Female (brachypterous).—Length about 1.2 mm. (fully distended 1.7 mm.). Color nearly uniform blackish brown; legs about concolorous with body, with all tarsi yellow and tips of all tibiae yellowish; antennae with segments I and II dark brown, I paler across base, II paler in median apical portion and with inner and outer surfaces and base nearly black; III-VIII nearly uniform dark brown, III with pedicel yellow, IV and V nearly black at extreme base; internal pigmentation vermilion red.

Head about 1.3 times as long as greatest width (which is slightly in advance of middle of cheeks), without the slight postocular constriction present in some species; cheeks rounded, slightly narrowed to eyes and to the slight basal collar; dorsal surface smooth and shining, free of sculpture save for two or three lateral striae just in front of the usual

subbasal line; vertex not produced and not overhanging; post-ocular setae nearly colorless, broadly expanded and minutely divided at tip, their length about $34\ \mu$, interval $96\ \mu$, distance from eyes $16\ \mu$. Eyes not protruding and thus evenly rounded with curve of head, about $46\ \mu$ long dorsally, their width approximately $30\ \mu$, interval about $50\ \mu$. Ocelli $8-10\ \mu$ in diameter, the posterior pair $31\ \mu$ apart and $20\ \mu$ from median ocellus. Antennae typical in fundamental structure, but unusual in that the more basal segments are shortened (III being only 0.75 as long as VI) and in that IV-VII are almost without pedicels; VIII somewhat narrowed basally but broadly attached to VII; sense-cones slender and very inconspicuous, arranged as follows on inner (and outer) surfaces of segments: III 0 (1), IV 1 (1), V 1 (1^{+1}), VI 1 (1^{+1}), VII 1 dorsal. Mouth-cone typical, extending about $70\ \mu$ beyond posterior dorsal margin of head.

Prothorax with median length of pronotum about 0.65 that of head and contained in the trans-coxal width about 2.1 times, with short median thickening near middle; surface perfectly smooth save for one or two partial cross-striae along posterior margin; antero-marginal setae very minute and pointed, the others pale yellowish, with their tips broadly dilated and minutely divided, epimerals $38\ \mu$, coxals $20\ \mu$, the others $32-33\ \mu$. Pterothorax distinctly narrower than prothorax. Legs typical; fore femora slightly enlarged.

Abdomen of normal form and structure, wider than prothorax, its major setae (except for the terminal ones, which are brown at base and pointed) nearly colorless and similar in structure to those on prothorax, save only the pointed wing-retaining ones, the pointed lateral pair on VII, and the pointed setae II and III on IX; IX with seta I $55\ \mu$, II $81\ \mu$, III $63\ \mu$; terminal setae about $97\ \mu$; tube 0.47 the length of head and only 1.3 times as long as greatest subbasal width, which is scarcely twice the apical width, sides nearly straight except at base.

Measurements of female (holotype), in mm.: Length about 1.23 (fully distended, 1.66); head, length 0.155, width across eyes 0.109, greatest width across cheeks 0.119, least width near base 0.114, width across basal collar 0.116; prothorax, median length of pronotum 0.100, width (inclusive of coxae) 0.216; mesothorax, width across anterior angles 0.207; abdomen, greatest width 0.263; tube (segment X, only), length 0.073, greatest subbasal width 0.056, least apical width 0.030.

Antennal segments:	1	2	3	4	5	6	7	8
Length (μ):	24	38	30	34	38	40	34	27
Width (μ):	30	24	22	24	23	21	18	12
Total length of antenna 0.265 mm.								

ARIZONA: Nogales, August 30, 1927, J.D.H., 1 ♀, from a mesquite-like tree (*Acacia* or *Prosopis*) [Hood No. 909].

The form of the third to seventh antennal segments is very different from that of the other species of *Karnyothrips*. This species is evidently related to *K. longiceps* (Hood), but differs from it in a number of further particulars, such as the shorter tube, the presence of only one sense-cone on the outer surface of the fourth antennal segment, and in the shorter median pair of setae on the ninth abdominal segment.

Karnyothrips arenicola sp. nov.

Female (brachypterous).—Length about 1.5 mm. (fully distended 2.0 mm.). Color nearly uniform ochraceous yellow; legs concolorous with body, save only the blackish brown tarsal cups; antennae with segments I–III about concolorous with body, III slightly paler than the others, IV–VIII nearly uniform light brown, IV often somewhat paler than V, especially basally; ocellar pigmentation red.

Head about 1.4 times as long as greatest width (which is near middle of cheeks), and with a very distinct postocular constriction; cheeks rounded to eyes and to base; dorsal surface smooth and shining, free of sculpture save for about two very faint lateral striae just in front of the usual subbasal line; vertex not produced and not overhanging; postocular setae nearly colorless, pointed, their length about 37 μ , interval 106 μ , distance from eyes 19 μ . Eyes rather strongly protruding and thus not evenly rounded with curve of head, about 49 μ long dorsally, their width approximately 26 μ , interval about 69 μ , ventral length 49 μ , ventral width 21 μ , ventral interval 79 μ . Ocelli wanting. Antennae much as in *K. pallidus* (Hood); segment II longest (51 μ), broadened apically (31 μ), relatively broad at base (19 μ), and constricted at basal fifth (11 μ), with the circular sensory area situated just beyond a line marking off the distal third of the segment; III small, formed as in *pallidus*; IV–VII scarcely pedicellate; VIII somewhat narrowed basally but broadly attached to VII; sense-cones slender and very inconspicuous, arranged as follows on inner (and outer) surfaces of segments: III 0 (1),

IV 1 (2), V 1 (1⁺¹), VI 1 (0⁺¹), VII 1 dorsal. Mouth-cone typical, extending about 80 μ beyond posterior dorsal margin of head.

Prothorax with median length of pronotum about 0.77 that of head and contained in the trans-coxal width about 1.65 times, without median thickening, surface perfectly smooth; antero-marginal and midlateral setae very minute (6–8 μ), the others nearly colorless and pointed, antero-angulars 13 μ , epimerals 35 μ , postero-marginals 26 μ , coxals 19 μ . Pterothorax distinctly narrower than prothorax. Legs typical; fore femora slightly enlarged.

Abdomen of normal form and structure, wider than prothorax, its major setae (except for the terminal ones, which are yellowish brown) nearly colorless, all of them pointed; segment IX with setae I and II usually about 120 μ , III about 97 μ ; terminal setae about 127 μ ; tube one-half the length of head and 1.5 times as long as greatest subbasal width, which is scarcely twice the apical width, sides nearly straight.

Measurements of female (holotype), in mm.: Length about 1.53 (fully distended, 1.95); head, length 0.181, width across eyes 0.117, least width just behind eyes 0.111, greatest width across cheeks 0.127, least width near base 0.119; prothorax, median length of pronotum 0.140, width (inclusive of coxae) about 0.231, mesothorax, width across anterior angles 0.195; abdomen, greatest width (at segment IV) 0.270; tube (segment X, only), length 0.090, greatest subbasal width 0.058, least apical width 0.030.

Antennal segments:	1	2	3	4	5	6	7	8
Length (μ):	40	51	39	45	43	40	39	27
Width (μ):	37	31	25	27	25	23	19	11
Total length of antenna 0.324 mm.								

Male (brachypterous).—Nearly identical with female in color and structure; sternum VIII with the glandular area in the form of a narrow, nearly complete, transverse band which is divided and hence Y-shaped at either end, the space between the arms of the Y occupied by the ventral attachment of the tergo-sternal muscles.

Measurements of male (allotype), in mm.: Length about 1.24 (fully distended, 1.49); head, length 0.168, width across eyes 0.107, least width just behind eyes 0.100, greatest width across cheeks 0.114, least width near base 0.108, mouth-cone,

length beyond posterior dorsal margin of head 0.080, prothorax, median length of pronotum 0.123, width (inclusive of coxae) 0.210; mesothorax, width across anterior angles 0.186; abdomen, greatest width (at segment IV) 0.234; tube (segment X, only), length 0.083, greatest subbasal width 0.054, least apical width 0.029; terminal setae, length 0.110.

Antennal segments:	1	2	3	4	5	6	7	8
Length (μ):	37	48	38	44	41	37	38	26
Width (μ):	34	28	23	25	23	20	17	11
Total length of antenna 0.309 mm.								

ARIZONA: Aguilas, August 22, 1927, J. D. H., 11 ♀♀ and 5 ♂♂, from a grass [*Hilaria rigida* (Thurb.) Benth., det. by Dr. Paul C. Standley]. [Hood No. 850].

The structure of the second and third antennal segments and the color of the body is almost precisely that of *K. pallidus* (Hood). The lack of distinct pedicels on the fourth to seventh segments of the antennae, the pointed body setae, and the form of the glandular area on the eighth abdominal sternum of the male, should serve, however, for the separation of *arenicola*.

Mesoveloides williamsi Hungerford—A note on its distribution.—This curious insect was described as a new genus and new species from two damaged females taken by F. X. Williams, at Mera, Ecuador, February 3, 1923. (Bull. Brooklyn Ent. Soc. XXIV, p. 289, 1929). Later Dr. T. Jaczewski described the male from three specimens belonging to the U.S.N.M. and taken at Cachali, Ecuador, by Rosenberg. (Proc. Ent. Soc. Wash., XXXIII, pp. 64–65).

That it occurs over a wider range than Ecuador is indicated by the following specimens in the Francis Huntington Snow Collection at the University of Kansas: 1 female labeled "Rio Virilla, Costa Rica, C. A., Dec. 26, 1931. Heinrich Schmidt"; 1 female, Peru, S. A., Oct. 10, 1935, F. Woytkowski, Vicinity Sani Beni, 840 m.a.s.l., canal supplying drinking water; 1 female, Peru, S. A., Dec. 11, 1937, F. Woytkowski, Dept. Huanuco, Vicinity Leon-pampa, Jungle 800 m.a.s.l., Forest Pool. Thus the species is distributed from Costa Rica, Central America to Peru, South America.—H. B. HUNGERFORD, Lawrence, Kansas.